

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

PUBLICATION NUMBER : 07117669  
PUBLICATION DATE : 09-05-95

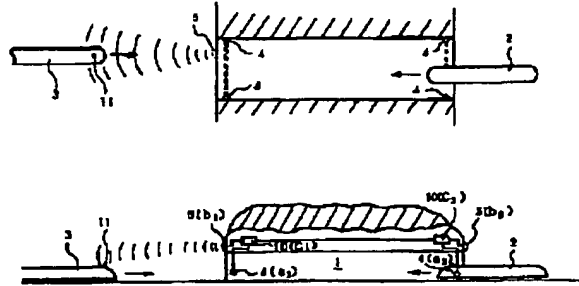
APPLICATION DATE : 21-10-93  
APPLICATION NUMBER : 05263338

APPLICANT : HITACHI LTD;

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INT.CL. : B61L 3/12 B60L 15/40 B61L 23/00  
E21D 9/14

TITLE : TUNNEL FOR RAPID TRANSIT TRAIN  
AND THE TRAIN



**ABSTRACT :** PURPOSE: To reduce pressure variation in a tunnel during the traveling of an on coming vehicle, by allowing a train which travels on the vehicle line on the opposite side to adjust the train speed before the intrusion into the tunnel, by installing a transmitter for transmitting the information such as the tunnel intrusion time of the train, on the wall surface of an inlet/outlet.

CONSTITUTION: A sensor 4 for sensing the intrusion of a train into a tunnel is installed at the inlet/outlet of the tunnel 1, and a signal transmitter 5 is installed on the wall surface of the tunnel inlet/outlet, and connected with a signal calculation controller 10. When an oncoming vehicle 2 intrudes into the outlet side of the tunnel 1, and an own vehicle 3 is in the state before the intrusion into the tunnel 1, on the inlet side, the information if the on-coming vehicle 2 is in traveling in the tunnel or not or the information about the intrusion time into the tunnel of the oncoming vehicle 2 is transmitted from the signal transmitter 5. Receiving the information, the own vehicle 3 adjusts the train speed, and averts the tunnel intrusion time when the pressure amplitude of the pressure propagation wave generated by the intrusion into the tunnel is strengthened each other, and the variation of the pressure acting on the train in the traveling in the tunnel is reduced.

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